

AMENDMENTS TO THE CLAIMS

Please amend claims 6 and 101, as set forth in the following listing of claims, which will replace all prior listings, and versions, of claims in the present application.

LISTING OF CLAIMS

1. (Previously Presented) A liquid sample dispensing system, comprising:
 - a holder;
 - a first pin coupled to the holder and having a first tip;
 - a second pin coupled to the holder and having a second tip spaced a predetermined separation distance D from the first tip, wherein the first and second pins are movable relative to each other; and
 - a sensor for measuring the physical properties of a liquid sample held between the first tip and the second tip.
2. (Original) The liquid sample dispensing system of claim 1, further comprising a first actuator for moving the first tip to vary the initial separation distance.
3. (Original) The liquid sample dispensing system of claim 1, further comprising a second actuator for moving the second tip to vary the initial separation distance.
4. (Original) The liquid sample dispensing system of claim 1, further comprising a sensor for sensing the separation distance between the first tip and the second tip.
5. (Canceled)
6. (Currently Amended) The liquid sample dispensing system of claim ~~5~~ 1, further comprising an actuator for varying the separation distance in response to the measurement of the physical properties.
7. (Original) The liquid sample dispensing system of claim 1, wherein the first pin and the second pin are fabricated from a silicon wafer.

8-64. (Canceled)

65. (Previously Presented) The liquid sample dispensing system of claim 1, wherein the first tip and a second tip separated from the first tip by a variable separation distance.

66. (Previously Presented) The liquid sample dispensing system of claim 1, wherein a sample acquisition region for holding a predetermined volume of liquid sample is formed between the first pin and the second pin.

67. (Previously Presented) The liquid sample dispensing system of claim 1, further comprising a driver for effecting movement of the second pin with respect to the first pin to adjust the predetermined separation distance.

68. (Previously Presented) The liquid sample dispensing system of claim 67, wherein the second pin is attached to the holder at a fixed pivot point.

69. (Previously Presented) The liquid sample dispensing system of claim 68, wherein the driver rotates the second pin about the fixed pivot point to adjust the predetermined separation distance.

70. (Previously Presented) The liquid sample dispensing system of claim 68, wherein the driver applies one of a predetermined force and a predetermined displacement to the second pin to rotate the second pin a predetermined amount.

71. (Previously Presented) The liquid sample dispensing system of claim 67, wherein the driver comprises a silicon bar.

72. (Previously Presented) The liquid sample dispensing system of claim 71, wherein the silicon bar expands a predetermined distance to apply the predetermined force to the second pin.

73. (Previously Presented) The liquid sample dispensing system of claim 67, wherein the driver comprises a piezoelectric assembly for moving the second pin.

74. (Previously Presented) The liquid sample dispensing system of claim 67, wherein the driver comprises an electromechanical assembly for moving the second pin.

75. (Previously Presented) The liquid sample dispensing system of claim 67, wherein the driver comprises a thermoelectric assembly for moving the second pin.

76. (Previously Presented) The liquid sample dispensing system of claim 69, further comprising a bending sensor for detecting the rotation of the second pin about the fixed pivot point.

77. (Previously Presented) The liquid sample dispensing system of claim 76, wherein the bending sensor communicates with the driver to form a closed loop control circuit for controlling the amount of rotation of the second pin.

78. (Previously Presented) The liquid sample dispensing system of claim 71, wherein the silicon bar includes heating resistors for applying a controlled amount of heat to the silicon bar to effect expansion of the silicon bar.

79. (Previously Presented) The liquid sample dispensing system of claim 71, wherein the silicon bar includes at least one cooling fin for cooling the silicon bar.

80. (Previously Presented) The liquid sample dispensing system of claim 71, wherein the silicon bar includes a temperature sensor for detecting the temperature of the silicon bar

81. (Previously Presented) The liquid sample dispensing system of claim 1, wherein one of the first tip and the second tip includes a chemical coating to enhance control over a liquid sample held in a sample acquisition region formed between the first tip and the second tip.

82. (Previously Presented) The liquid sample dispensing system of claim 81, wherein the chemical coating comprises a hydrophobic material.

83. (Previously Presented) The liquid sample dispensing system of claim 81, wherein the chemical coating comprises a hydrophilic material

84. (Previously Presented) The liquid sample dispensing system of claim 81, wherein the chemical coating is applied in a predetermined pattern.

85. (Previously Presented) The liquid sample dispensing system of claim 84, wherein the predetermined pattern is determined by a mask used in applying the chemical coating to the tip.

86. (Previously Presented) The liquid sample dispensing system of claim 1, wherein the first tip includes a first contact surface and the movable tip includes a second contact surface defining a sample acquisition region for holding a predetermined volume of liquid sample.

87. (Previously Presented) The liquid sample dispensing system of claim 86, wherein the first contact surface and the second contact surface are tapered.

88. (Previously Presented) The liquid sample dispensing system of claim 86, wherein the first contact surface and the second contact surface are parallel.

89. (Previously Presented) The liquid sample dispensing system of claim 86, wherein one of said first contact surface and said second contact surface is curved.

90. (Previously Presented) The liquid sample dispensing system of claim 1, further comprising a relaxation region for absorbing an impact on at least one of the tips.

91. (Previously Presented) The liquid sample dispensing system of claim 90, wherein the relaxation region comprises a spring connecting the first tip and the holder.

92. (Previously Presented) The liquid sample dispensing system of claim 90, wherein the relaxation region comprises a spring connecting the second tip and the holder.

93. (Previously Presented) The liquid sample dispensing system of claim 90, wherein the relaxation region includes a sensor for measuring the force on the tips.

94. (Previously Presented) The liquid sample dispensing system of claim 1, wherein one of said first pin and said second pin includes a fulcrum region comprising a fixed pivot point to permit movement of the pin about the fixed pivot point.

95. (Previously Presented) The liquid sample dispensing system of claim 94, further comprising an actuator for moving the pin that includes the fulcrum region about the fixed pivot point.

96. (Previously Presented) The liquid sample dispensing system of claim 1, wherein one of said first pin and said second pin further includes a spring portion for absorbing an impact on the tip.

97. (Previously Presented) The liquid sample dispensing system of claim 1, wherein the holder, first pin and second pin are microfabricated from a substrate comprising a silicon wafer.

98. (Previously Presented) The liquid sample dispensing system of claim 1, wherein the holder, first pin and second pin are microfabricated from a substrate comprising a glass plate.

99. (Previously Presented) A microfabricated liquid sample dispensing system formed on a silicon wafer substrate, the system comprising:

- a holder microfabricated on the silicon wafer substrate;
- a first pin microfabricated on the silicon substrate and coupled to the holder, the first pin having a first tip; and
- a second pin microfabricated on the silicon substrate and coupled to the holder, the second pin having a second tip spaced a predetermined separation distance D from the first tip, wherein the first and second pins are movable relative to each other.

100. (Previously Presented) The liquid sample dispensing system of claim 99, further comprising a first actuator for moving the first tip to vary the initial separation distance.

101. (Currently Amended) The liquid sample dispensing system of claim ~~99~~ 100, further comprising a second actuator for moving the second tip to vary the initial separation distance.

102. (Previously Presented) The liquid sample dispensing system of claim 99, further comprising a sensor for sensing the separation distance between the first tip and the second tip.

103. (Previously Presented) The liquid sample dispensing system of claim 99, further comprising a sensor for measuring the physical properties of a liquid sample held between the first tip and the second tip.

104. (Previously Presented) The liquid sample dispensing system of claim 103, further comprising an actuator for varying the separation distance in response to the measurement of the physical properties.

105. (Previously Presented) The liquid sample dispensing system of claim 99, further comprising a driver for effecting movement of the second pin with respect to the first pin to adjust the predetermined separation distance.

106. (Previously Presented) The liquid sample dispensing system of claim 99, wherein one of the first tip and the second tip includes a chemical coating to enhance control over a liquid sample held in a sample acquisition region formed between the first tip and the second tip.

107. (Previously Presented) The liquid sample dispensing system of claim 99, further comprising a relaxation region for absorbing an impact on at least one of the tips.

108. (Previously Presented) The liquid sample dispensing system of claim 99, wherein one of said first pin and said second pin includes a fulcrum region comprising a fixed pivot point to permit movement of the pin about the fixed pivot point.